of the body in which the exciting cause was demonstrable and the relationships of the auricular manifestation to the more severe infections, in this individual case are in favor of the inferential diagnosis.

Contributions to the Study of the Bacteriology of Acute Otitis Media Purulenta.—In the cases reported in this communication, ABERT (*Archiv f. Ohrenheilkunde* lxxxv, 251) took, for the purposes of his investigation, pus taken from the surgically opened mastoid process, in the course of the operation, not from the middle ear through the medium of the external canal, in which respect his investigation differs from many others with which the results may be compared. A bacteriological examination was made in 110 cases and, in the majority, over 90 per cent. streptococci were present, in 18 cases streptococcus alone, 19 cases almost entirely streptococcus, 73 cases of mixed infection, streptococcus in preponderance, and also saprophytes, staphylococcus, and pneumococcus. Of these 73 cases streptococcus mucosus was determined in 8 cases, in 2 cases a pure culture, 2 cases staphylococci only, and 2 cases in combination with pneumococcus; there were also 2 notable cases in which only saprophytes were found. Of the infectious diseases, in which suppurative inflammation of the middle ear is a not infrequent sequence, scarlet fever stands first, and the bacteriological examination of the observed cases gave the following result: Streptococcus in pure culture, 5; streptococcus almost entirely, 4; streptococcus mucosus, 2; streptococcus and staphylococcus, 4. The aural implication in measles was much less frequent and bacteriologically was as follows: Streptococcus in pure culture, 1; streptococcus mucosus, 1; streptococcus and rod-like bodies, 1; staphylococcus albus, 1. Of secondary otitis there were 2 cases, one following diphtheria, the other in the course of a tuberculous infection in both of which the bacteriological finding gave streptococcus and staphylococcus. There were, in addition, 6 cases of middle-ear inflammation following influenza which could not definitely be called the otitis of influenza because no influenza bacilli were determined. Burkner reports 4 cases of otitis following influenza in which careful bacteriological examination of the secretions from the middle ear were made without proving the influenza bacillus, but demonstrating in 2 cases streptococcus pyocyaneus, in 1 case streptococcus mucosus, and in the remaining case pneumococcus. From the cases cited it was evident that the streptococcus infection preponderated, the streptococcus mucosus coming next. Next in frequency were the saprophytes, and with them a rod-like body, both aërobic and anaërobic in culture closely resembling the pyocyaneus. The saprophytes were frequently associated with bacteria, streptococcus, staphylococcus, and pneumococcus, but the exact procedure in effect of these mixed infections is not yet determined, the influenza otitis is not solely referable to influenza but may be induced by other agents.

Conditions Causing Permanency and Cicatricial Closure of Perforations of the Drum-head in Childhood.—Perforations of the drumhead have a tendency to heal because of the histological structure of that compound membrane and the conditions which lead to a permanent opening are, therefore, according to B. GOMPERS (*Zeitschr. f. Kinderheilkunde*, v, No. 1), especially worthy of consideration. In the first year of infancy large perforations of the drum-head are rarely seen, and then only in cases of lowered vitality, in hereditary syphilis, or advanced tuberculosis; occasionally large perforations are observed in cases of measles. In the second year extensive destruction of the drum-head is observed in cases of scarlet fever, and, less frequently, in cases of typhus and measles. The extent of the destruction is limited by the vital resistance, the conditions unfavorable to healing being, according to the observations of Gompers, physical impoverishment of the parents at time of procreation as a consequence of poverty, drunkenness, syphilis, diabetes, and, especially, tuberculosis. The children of such parents have poorly nourished tissues of moderate resistance and minimum power of regeneration, and in these cases are found not only extensive persistent perforations of the drum-head, but also necrotic processes in the neighboring bony structures, and continuance of the middle-ear suppuration in the chronic form. With betterment of the general condition, accompanying appropriate aural treatment, the suppurative process may be checked and even large perforations conglutinated, but with a lowering of the general condition in strength and vitality the destructive process in the drum-head continues. In the spontaneous closure of perforations, by cicatricial tissue, the inflammation which was the cause of destruction furnishes the irritative incentive to the formation of new tissue; if this inflammatory reaction is wanting, however, the perforation remains constant until a further inflammatory reaction again stimulates newgrowth; in one case a large and long persistent perforation was observed to have become closed, as the result of a new inflammation of the middle ear, consequent upon an influx of cold water. Closure of perforations of the drum-head may be induced by the application of irritating substances to the edges of the perforation but the still more valuable preventive measure in acute inflammations of the middle ear, is an early paracentesis.

Hemorrhage Accompanying Paracentesis of the Drum-head.—Paracentesis of the drum-head in cases of acute congestion of the middle ear, Carl Lüders (*Zeitschr. f. Ohrenheilkunde,* lxvi, 1–2) says, is accompanied by hemorrhage varying in degrees proportionate to the degree of congestion and the extent and location of the incision, but usually occurring spontaneously, or easily checked by moderate tamponage. When the hemorrhage is so severe as to instantly fill, and then continue to flow from the external canal, the possibility of a complication is immediately suggested, either in the form of a structural abnormality or in a constitutionally predisposing cause. In the latter instance the outflow of blood from the middle-ear immediately following the paracentesis, instead of slackening within a few seconds, continues undiminished to the extent even of extruding the attempted tamponage of the external canal, or exhibiting itself as an outflow from the nose and mouth of the blood passing from the middle ear through the channel of the tympanopharyngeal tube. The structural abnormalities contributing to the possibilities of excessive bleeding from a paracentesis are those in which the internal carotid and the jugular bulb encroach upon the lumen of the tympanum; the constitutional predisposing causes are to be found, for example, in the natural bleeders, the nephritics, and the diabetics.